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TECH MEMORANDUM

Utah Coal Regulatory Program

August 23, 2010

TO: File

THRU: Daron Haddock, Permit Supervisor *DRH*

FROM: James D. Smith, Environmental Scientist III – Hydrology, Team Lead *JS 24/08/10*

RE: Division Order DO-04 Response, Andalex Resources, Inc., Wildcat Loadout, C/007/0033, Task ID #3593

SUMMARY:

This proposed amendment contains a conceptual plan, agreed upon by the Division and Andalex Resources, to address Division Order DO-04, formally known as "Design Drawings and Specifications", which generally relates to the problem of wind-blown fines that have left the permit area during past operations.

December 9, 2004	Division Order DO-04 issued to control and minimize windblown coal fine accumulations (assigned Task ID #2031).
March 15, 2005	Division received Permittee's response to DO-04 (Task ID #2031) (assigned new Task ID #2182).
October 31, 2005	Deficiency letter for Task ID #2182.
January 3, 2006	Division received Permittee's response to Task ID #2182 deficiencies (assigned new Task ID #2410)
August 9, 2006	Division's letter to Permittee, without specific deficiencies, requesting information that provides sufficient detail to meet the objectives of DO-04.
October 12, 2006	Division granted extension (Task ID #2410)
November 06, 2006	Division granted extension (Task ID #2410)
January 08, 2007	Division granted extension (Task ID #2410)
March 07, 2007	Division granted extension (Task ID #2410)
April 09, 2007	Division granted extension (Task ID #2410)
May 21, 2007	Division received the Permittee's response to Task ID #2410, Division Order- Design Drawings and Specifications (assigned new Task ID #2808). This submittal included: 1) Response to Division Order DO-04 2) Expansion of the Primary Coal Storage Area

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	3) Preparation of a Material Storage Area.
May 31, 2007	Division returned this submittal (Task ID #2808) based on the Permittee's verbal request. The Division asked for a complete and adequate response to the original Division Order by December 21, 2007.
June 15, 2007	Division received Permittee's "expansion" application submitted in response to the requirements of DO-04 for the control of the wind-blown coal fines at the site (assigned new Task ID #2822). This submittal included: <ul style="list-style-type: none"> 1) Response to Division Order DO-04 2) Expansion of the Primary Coal Storage Area 3) Preparation of a Material Storage Area.
October 19, 2007	Permittee's letter to withdraw the response (Task ID #2822 dropped; Task ID # 2808 reactivated).
February 29, 2008	Permittee submitted response to Task ID # 2808 deficiencies: included responses to both the DO-04 and the mid-term review (assigned new Task ID # 2938).
March 19, 2008	Division returned deficient based on IR for Task ID # 2938. Division recommended separation of the DO response from the Midterm Review response.
April 30, 2008	Permittee resubmitted response to Task ID # 2938 deficiencies without the Midterm Review response (assigned new Task ID # 2966)
April 28, 2009	Division sent deficiency letter for Task ID #2966; recommended separation of the DO-04 Response from the Loadout Expansion and Material Storage amendment.
August 13, 2009	Division received Permittee's response to Task ID #2966 deficiencies without the Loadout Expansion and Material Storage amendment information (assigned new Task ID #3365).
December 10 and 12, 2009	Division sent deficiency letter for Task ID #3365.
July 15, 2010	Division received Permittee's response to Task ID #3365 deficiencies (assigned new Task ID #3593).

This Tech Memo (Task ID #3593) is the review of the July 29, 2010 response.

The main hydrology change involves removal of existing sedimentation Pond B and construction of a new Pond G. ASCAs are also being modified. The Permanent Impoundment on the northwest side of the area will not be affected. There are no springs or water wells on or immediately adjacent to the facility. The sedimentation ponds discharge into two branches of a small ephemeral drainage, identified as Wildcat Wash in the UPDES permit, that lie along the east and south sides of the permit area. Wildcat Wash is tributary to Garley Canyon, which reaches the Price River approximately 3½ miles to the southeast.

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According to Plate 1B, the disturbed area will expand from 68.11 acres to 74.46 acres. The Permittee is not changing the Permit Area, neither reducing it to match the disturbed area nor enlarging it to match the new, larger Right-of-Way; rather, the Permittee is leaving it as it is in the current Permit and MRP (approximately 100 acres). The additional disturbance falls within this existing Permit Area Boundary, as shown on Plates 1B and 2A.

The Division has identified several deficiencies. Before the Division can approve this amendment, the Permittee must satisfactorily address the following, in accordance with:

R645-301-121.200, Section 711.100 (in the 3rd paragraph under Regional Groundwater Hydrology) makes reference to Figure VII-1, a generalized stratigraphic section located on page p. 7-46 of the current MRP. The C1/C2 form for the current submittal shows the entire Chapter 7 is to be replaced, but this figure is not in the submitted replacement material. The Permittee needs to assure that Figure VII-1 is included, with proper pagination, in the new Chapter 7.

R645-301-521.163, -121.200, Section 645-301-510 makes two references (in the 3rd paragraph under Introduction and at the end of the 3rd paragraph under Cross Sections, Maps, and Plans) to Figure VII-2, an outdated location map located on page 7-47 of the current MRP. The C1/C2 form for the current submittal shows the entire Chapter 7 is to be replaced, but this figure is not in the submitted replacement material. The Permittee needs to either:

- include an updated Figure VII-2, with proper pagination, in the new Chapter 7
or
- change the references in Section 645-301-510 from Figure VII-2 to another map that shows the referenced information, such as Plate 15.

R645-301-521.163, The Permittee must delineate and identify the proposed bonded (disturbed) area on Plate 1-A; or, as an alternative, the statement in Section R645-301-830 - Determination of Bond Amount that "Bonded areas are shown on Plates 1, 1A, and 1B..." can be revised to omit Plate 1A.

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TECHNICAL ANALYSIS:

GENERAL CONTENTS

RIGHT OF ENTRY

Regulatory Reference: 30 CFR 778.15; R645-301-114

Analysis:

On February 5, 2007, the BLM amended Andalex Resources' right-of-way, expanding it from 100 acres to 270 acres (Appendix B-Part A-12). In these modifications, the BLM squared-up the 270-acre configuration in part to accommodate its own administrative purposes. Several maps in the submittal, including Plates 1, 1A, 2A, and 29 show both the old and new right of way boundaries.

Findings:

Right of Entry information is sufficient to meet the requirements of the Utah Coal Mining Rules.

REPORTING OF TECHNICAL DATA

Regulatory Reference: 30 CFR 777.13; R645-301-130.

Analysis:

Section R645-301-130 of the MRP lists persons or organizations that collected and analyzed the data. Dan Guy - a registered professional, engineer - prepared the Sedimentation and Drainage Control Plan, Appendix R.

Under Reporting and Technical Data, In House Consulting Services, Samuel C. Quigley is listed as General Manager and Michael W. Glasson as Senior Geologist. Although these two men no longer work at Andalex Resources, they (along with Dave Shaver) were apparently the Andalex personnel involved in "collection and analysis of the technical data set forth in this application".

Findings:

The Reporting of Technical Data is in compliance with the requirements of the Utah Coal Mining Rules.

MAPS AND PLANS

Regulatory Reference: 30 CFR 777.14; R645-301-140.

Analysis:

Most maps that have been submitted are stamped, dated, and signed by Dan W. Guy or David W. Hibbs, professional engineers registered in the State of Utah. Plate 29, which shows Vegetation, has not been certified. The Coal Mining Rules do not require that the vegetation maps be certified by a PE.

The C1/C2 form lists Plate 2 is to be replaced. There is a new Plate 2A, but no new Plate 2. It isn't clear if the currently approved Plate 2 is to be left in the MRP, if there was supposed to be a new Plate 2 that didn't get included in the submittal, or if there is no Plate 2. The Division asked for clarification on this in order to complete the Initial Review, and in an e-mail dated 8/28/2009 the Permittee gave the following clarification:

...Plate 2 is the existing (currently approved and incorporated) old mylar hydro map. Plate 2A is the new Autocad hydro map, which is a cleaned-up version of the original (Plate 2) map, but also includes the changes that would go along with new construction associated with responding to DO-04. Assuming the DO amendment is approved, and the field changes proposed by the amendment are implemented, then the old mylar Plate 2 will be thrown away (at long last) and will be replaced with the new electronic version (Plate 2A before you now), which will then be renumbered as Plate 2. I know this is somewhat confusing, but it was done this way to ultimately avoid long-term confusion when the DO is taken care of and we finally have an as-built hydrology map on Autocad labeled Plate 2.

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Section R534-301-510 (Cross Sections, Maps, and Plans, page 5-2) states that Plate 9 shows final reclamation contours and the location of the cross sections that are on Plate 10, and that from those cross sections, the mass balance was developed; cross section locations are also on Plate 14.

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Findings:

Upon approval of this amendment and completion of the changes to the facility, the Permittee will renumber "Plate 2A" from this submittal as "Plate 2" and will replace the current (Mylar) Plate 2 with this new (AutoCAD) Plate 2. With this commitment, the proposed amendment meets the General Maps and Plans requirements of the Utah Coal Mining Rules.

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

PERMIT AREA

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

Analysis:

Various numbers – 60.94 acres to 75.33 acres – are used for the disturbed area throughout the MRP. The revegetation cost calculations in Appendix B, Part D are based on 69 acres. According to Plate 1B, the disturbed area will expand from 68.11 acres to 74.46 acres. Various acreage estimates include or exclude the ASCAs and the railroad right-of-way, which accounts for some of these discrepancies.

Section R645-301-830 - Determination of Bond Amount in the MRP states "Bonded areas are shown on Plates 1, 1A, and 1B and further described in R645-301-542". Plate 1 shows the "Existing Disturbed Area Boundary" and Plate 1B shows the "Existing Disturbed Area" and "Proposed Disturbed Area (DO-04)"; the disturbed or bonded area is, of course, included within the area covered by Plate 1A but it is not identified or delineated.

Findings:

Environmental Resource Information for the Permit Area is not sufficient to meet the requirements of the Coal Mining Rules. Before the Division can approve this amendment, the Permittee must satisfactorily address the following, in accordance with:

R645-301-521.163, The Permittee must delineate and identify the proposed bonded (disturbed) area on Plate 1-A; or, as an alternative, the statement in Section R645-301-830 - Determination of Bond Amount that "Bonded areas are shown on Plates 1, 1A, and 1B..." can be revised to omit Plate 1A.

MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

Analysis:

Monitoring and Sampling Location Maps

The Permittee monitors WCW-1 and WCW-3 in undisturbed drainages above the site and WCW-2 and WCW-4 in the same drainages below the site. Plates 2 (2A) and 15 show the locations of these monitoring sites.

Permit Area Boundary Maps

Plate 29, the Vegetation Map, shows both the old and new Right of Way boundaries, labeled respectively as "Existing Permit Boundary" and "BLM Right of Way Boundary."

Findings:

The proposed amendment meets the Maps, Plans, and Cross Sections of Resource Information requirements of the Utah Coal Mining Rules.

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Surface-Water Monitoring

The Permittee monitors two stations in undisturbed drainages above the site (WCW-1 and WCW-3) and two stations in the same drainages below the site (WCW-2 and WCW-4). The Permittee samples these four sites quarterly. The Permittee checks sedimentation pond discharges and samples the outflow, if any is present, on a monthly basis. Plates 2 (2A) and 15 show the locations of these monitoring sites.

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Sections R645-301-711.300, -723, and -731.200 refer to Section R645-301-512.240 for Water Monitoring information. Section 512.240 contains the Water Monitoring Plans, including Tables V-10 and V-11 that list the parameters and monitoring protocol

Acid- and Toxic-Forming Materials and Underground Development Waste

Measures to prevent drainage from refuse materials into surface water and ground water are described in section 512.230. Section R645-301-512.230 states that "...Drainage from the [coal processing waste] pile is carried to Pond F via disturbed ditch D-32, D33, and D-34, which is sized to carry runoff from the pile from a 100 year - 6 hour event as required".

Findings:

Hydrologic Operation Information is sufficient to meet the requirements of the Coal Mining Rules.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Analysis:

Affected Area Maps

Plate 29, the Vegetation Map, shows both the old and new Right of Way boundaries, labeled respectively as "Existing Permit Boundary" and "BLM Right of Way Boundary."

Monitoring and Sampling Location Maps

The Permittee monitors WCW-1 and WCW-3 in undisturbed drainages above the site and WCW-2 and WCW-4 in the same drainages below the site. Plates 2 (2A) and 15 show the locations of these monitoring sites.

Findings:

The proposed amendment meets the requirements of the Utah Coal Mining Rules for Maps, Plans, and Cross Sections of Mining Operations.

RECLAMATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

Hydrologic Reclamation Plan

The discussion on reclamation in Section 240 (Phase I and Phase II), Section 242.310 (Phase I), and Section 541 (Phase I and Phase II) includes the reclamation of Pond G during Phase I. Pond B will be removed when this plan is implemented and will not be involved during final reclamation.

Findings:

Reclamation Hydrologic Information is sufficient to meet the requirements of the Coal Mining Rules.

MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

Analysis:

All sediment ponds will be removed during final reclamation and recontoured as shown on Plate 9. As sediment ponds are removed, any contaminated material will be hauled to an approved disposal site. Plates 1-A, 2 (2A), and 9 show the 2-celled Permanent Impoundment, which will be left in place to serve as wildlife habitat enhancement (Appendix R, Reclamation Hydrology 4.1 – General).

The Depression Area (Plate 3I) will also remain after reclamation, and runoff will continue to pond against the pre-existing Utah Railway rail bed because drainage around, under, or through the railroad right-of-way was never planned or constructed. Although Section 542.320 does not list the Depression Area with the permanent facilities to be left at reclamation, Sections 3.4 (Sediment Pond Summary) and Reclamation Hydrology 4.1 (General) in

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Appendix R state that it will remain after reclamation and it is shown on Plate 9 – Final Reclamation Contours Phase II.

Reclamation Monitoring and Sampling Location Maps

Sections R645-301-711.300, -723, and -731.200 refer to Section R645-301-512.240 for Water Monitoring information. The plan includes Reclamation Monitoring.

Findings:

The proposed amendment meets the Maps, Plans, and Cross Sections of Reclamation Operations requirements of the Utah Coal Mining Rules.

RECOMMENDATION:

The Division should not approve this proposed amendment. Before the Division can approve this amendment, the Permittee must satisfactorily address the following deficiencies, in accordance with:

R645-301-121.200, Section 711.100 (in the 3rd paragraph under Regional Groundwater Hydrology) makes reference to Figure VII-1, a generalized stratigraphic section located on page p. 7-46 of the current MRP. The C1/C2 form for the current submittal shows the entire Chapter 7 is to be replaced, but this figure is not in the submitted replacement material. The Permittee needs to assure that Figure VII-1 is included, with proper pagination, in the new Chapter 7.

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